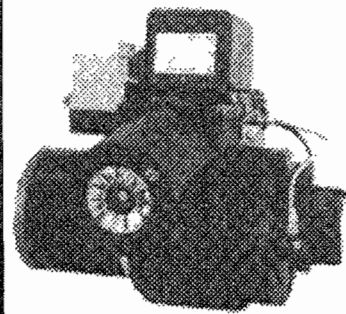




801 GLASGOW AVE.  
FORT WAYNE, IN 46803

# MODEL EHA/EH & EHASR OIL BURNERS

Manual 21530  
Publication Date 12/28/2010 Revision 9



## WARNING

### ELECTRIC SHOCK HAZARD

HIGH VOLTAGES ARE PRESENT IN THIS EQUIPMENT. FOLLOW THESE RULES TO AVOID ELECTRIC SHOCK.

- ▲ Use only a properly grounded circuit. A ground fault interrupter is recommended.
- ▲ Do not spray water directly on burner.
- ▲ Turn off power before servicing.
- ▲ Read the owner's manual before using.



## WARNING

### OVERHEATING HAZARD

SHOULD OVERHEATING OCCUR:

- ▲ Shut off the manual oil valve to the appliance.
- ▲ Do not shut off the control switch to the pump or blower.

## WARNING

NEVER ATTEMPT TO USE GASOLINE AS A FUEL FOR THIS BURNER, AS IT IS MORE COMBUSTIBLE AND COULD RESULT IN A SERIOUS EXPLOSION.

## SPECIFICATIONS

### FUELS

Use No. 1 or No. 2 heating oil (ASTM D-396) only.

- \* NEVER attempt to use gasoline as a fuel for your burner, as it is more combustible and could result in a serious explosion.
- \* NEVER burn garbage or refuse in the heating unit.
- \* NEVER try to ignite oil by tossing burning paper or other material into the heating unit
- \* NEVER burn waste or crankcase oil in the heating unit.

### FIRING CAPACITIES - MODEL EHA and EHASR

0.75 TO 3.00 GALLONS PER HOUR  
105,000 TO 420,000 BTU/HR INPUT

### FIRING CAPACITIES - MODEL EH

3.00 TO 6.00 GALLONS PER HOUR  
420,000 TO 840,000 BTU/HR INPUT

### FUEL PUMPS

Suntec or Danfoss - Single Stage Standard

### ELECTRICAL

Power Supply .....115V / 60HZ / 1 PH  
Motor .....3450 RPM, N.E.M.A. Flange, Manual Reset Overload Protection  
Ignition.....10,000V / 23MA secondary, Continuous Duty-Shielded Interrupted

### FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

### CAUTION



#### Wayne® Fuel Blend

Shipped with small residual amounts of Wayne® Fuel Blend from testing: see Instruction Manual for Safety Information.

COMBUSTIBLE LIQUID  
Contains Kerosene

### DIMENSIONS (STANDARD)

HEIGHT .....13 3/8"  
WIDTH .....16 9/16"  
DEPTH.....8 1/4"  
CENTER LINE  
OF TUBE TO FLOOR .....8 1/16"

### MOUNTING

Rigid Flange, Adjustable Flange, or Base Mount

## INSTALLATION OF BURNER

INSTALLATION OF THE BURNER MUST BE DONE BY A QUALIFIED INSTALLER IN ACCORDANCE WITH REGULATIONS OF THE NATIONAL FIRE PROTECTION STANDARD FOR OIL-BURNING EQUIPMENT, NFPA NO. 31, AND IN COMPLETE ACCORDANCE WITH ALL LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.

A QUALIFIED INSTALLER IS THE PERSON WHO IS RESPONSIBLE FOR THE INSTALLATION AND ADJUSTMENT OF THE EQUIPMENT AND WHO IS LICENSED TO INSTALL OIL-BURNING EQUIPMENT IN ACCORDANCE WITH ALL CODES AND ORDINANCES.

THESE INSTRUCTIONS SHOULD BE AFFIXED TO THE BURNER  
OR ADJACENT TO THE HEATING APPLIANCE.



## TO THE HOMEOWNER

Since 1928, Wayne has supplied the Homeowners of the world with oil burners. You are obtaining a quality burner unsurpassed in engineering design and product development. It will provide you with many years of efficient, trouble-free operation, if properly installed and serviced. Please read this manual carefully.

Wayne warrants its burners specifically to those who have purchased it for resale, including your dealer. If, in any case, you have a problem with your burner, or its installation, you should contact your dealer for assistance.

## APPROVALS

This burner complies with ANSI/UL Standard 296 and is for use with No. 1 or No. 2 fuel oil and is U/L listed for use with Group I or Group II primary safety controls. State and local approvals are shown on burner rating label. All burners should be installed in accordance with the National Fire Protection Association, and in complete accordance with all local codes and authorities having jurisdiction. Regulation of these authorities take precedent over the general instructions provided in this manual.

## GENERAL INFORMATION

When installing the appliance and/or burner be sure to provide adequate space for easy service and maintenance. Prior to installation of the oil burner, the heating system should be carefully inspected for defects and cleanliness. The flue passages and heat absorbing surfaces must be clean to assure maximum heat transfer, soot acts as an insulator retarding the transfer of heat. The combustion chamber, flue gas passages, and all doors and openings must be sealed tight to eliminate air infiltration. Excess air, decreases CO<sub>2</sub> levels and thus lowers efficiency. Inspect the flue and chimney for leaks and obstructions, be sure the chimney is of adequate size and height. Install a draft regulator the same size as the flue pipe (see paragraph under Draft Regulators).

## COMBUSTION CHAMBER

The purpose of a combustion chamber is to maintain a high flame temperature, by reflecting the heat back into the flame. A high temperature assures greater combustion efficiency and lower stack losses. An insulating refractory or a Fiber Fax type chamber can be used with this burner. It is important to select and install, if necessary, the correct size chamber on a conversion job (see chart, page 5). On the Flamelock conversion burners the atomized oil burns just off the Flamelock. On all oil burners the atomized oil must not touch the sides or bottom of chamber, or smoke will result. To eliminate the smoke, excess air will be required, resulting in high stack temperature and lower combustion efficiency. Install burner so the face of air cone of burner is set 1/4" behind the inside front wall of the chamber (See Figure 5, page 6). Caution on installing Flamelock burners in stainless steel chambers should be taken, because of the higher temperature levels produced by high performance flame retention burners. The temperature may exceed the temperature ratings of the stainless steel chamber and can result in chamber burn outs. When you are replacing a standard burner with a flame retention burner, take the following precautions: (1) use pliable Ceramic Liner to line the inside of chamber, (2) adjust burner (See column under "Final Adjustments").

## FUEL PUMPS AND OIL LINES

Model EHA, EH and EHASR oil burners are provided with single stage 3450 RPM fuel pumps with the by-pass plug removed for a single pipe installation. This is satisfactory where the fuel supply is on the same level, or above burner, permitting gravity flow of oil. Never exceed 3 PSI pressure to the suction side of fuel pump. A pressure over 3 PSI may cause damage to the shaft seal and allow it to leak oil. When it is necessary to lift the oil to the burner, a return line should be run between fuel pump and oil supply. (If lift exceeds 10 feet, a two stage fuel pump must be used with a return line.) When a two line installation is made, the by-pass plug must be installed. This is supplied with the burner attached to fuel pump, along with an information pump data sheet in a plastic bag. When oil lines are continuous runs of heavy wall copper tubing is recommended. Be sure that all connections are absolutely air-tight. Check all connections and joints. Flared fittings are recommended. Do not use compression fittings. Avoid running tubing against the appliance and across ceiling or floor joist; if possible install under floor. Avoid using fittings in inaccessible locations. If possible, avoid running oil lines overhead. Specific information on piping, connections, lift capabilities and tank installations is provided in the instruction sheet of the fuel pump manufacturer. Use an oil filter of adequate size for all installations. Install inside the building between the tank shutoff valve and the burner. Install shutoff valve in oil supply line in accessible locations, one close to the tank, another close to the oil burner but ahead of the filter. NOTE: If the maximum burner firing rate exceeds the integral fuel pump strainer rating, an external U/L listed filter/strainer must be placed in the fuel line between the fuel tank and burner fuel pump.

## TANKS AND PIPING

Local codes and regulations must be followed regarding tank and burner installation. Check existing tanks for water and sludge accumulation, clean if necessary. Also clean or replace existing piping.

## WIRING

All wiring must comply with the National Electric Code and local ordinances. Refer to diagram supplied with burner or controls, making sure the burner and controls are wired correctly and that the line switch is properly connected to a 20 amp fused service.

## AIR SUPPLY FOR COMBUSTION

A burner shall not be installed in an area where facilities for normal air circulation or infiltration are so limited as to interfere with ready obtainment of all air necessary for proper combustion and venting. When the heating appliance is installed in a confined space, two permanent openings shall be provided. One near the top of the enclosure and one near the bottom. Each opening shall have a free area of not less than one square inch per 1000 BTU per hour (140 square inch per gph) of the total input rating of all the appliances in the enclosure. When the house is out of unusually tight construction, has a kitchen ventilating system, exhaust fans, clothes dryer or vented fireplaces, it is recommended that combustion air be supplied through two permanent openings. The openings shall communicate directly, or by means of ducts, with outdoors or to such spaces (attic or craw) that freely communicate with outdoors. For additional information, refer to ANSI standard NFPA 31.



## CHIMNEY

Follow the recommendations of the appliance manufacturer. A chimney shall be capable of producing a draft as required by the appliance and as recommended by the appliance manufacturer. It must be properly designed, of adequate size, and should be above the surrounding objects, tile-lined, with no obstructions, and be in good state of repair. The smoke pipe should set flush with the inside of tile and be cemented in place. All cleanout doors should be sealed. A draft inducer may be used to overcome inadequate draft conditions. If a draft inducer is used, provisions must be made to insure the burner does not operate if the draft inducer fails.

## DRAFT REGULATORS

A draft regulator shall be provided unless otherwise specified by the appliance manufacturer. The draft regulator shall be installed in accordance with local codes and regulations or in the absence of local codes, with the American National Standard NFPA31. Refer to appliance manufacturer's instructions for recommended overfire and stack draft.

## NOZZLE AND AIR CONE SELECTION

The EHA, EH and EHASR oil burners typically fire well with a solid or semi-solid nozzle with a spray angle of 80, 70 or 60 degrees. In most upgrading or conversion installations, the use of an 80 degree solid nozzle is the best way to start with. Always use the proper nozzle size, spray cone type and spray angle the appliance manufacturer recommends. Should this information not be available, your own good judgement will prevail. Under no circumstances attempt to fire the EHA or EHASR oil burners under their 0.75 gph minimum or over their 3.00 gph maximum. Under no circumstances attempt to fire the EH oil burner under its 3.00 gph minimum or over its 6.00 gph maximum input ratings.

EH Mod Pak Air Tube/gun Assembly Combinations are built with a 3.00 to 4.50 GPH P-4 as standard. To convert to the 5.00 to 6.00 GPH P-7 rating:

1. Change the 3-1/4" I.D. cast iron cone (EH 12990) installed to the 3-9/16" I.D. cast iron air cone (EH 13003) supplied.
2. To change air cones, remove the phillips head counter sunk 8-32 screw securing the existing air cone in the air tube end, remove the air cone.
3. Install the larger air cone.
4. Adjust flamelock on gun assembly ahead of air cone face: 1/8" ahead for 3.00 to 4.50 GPH (UL rate P-4) rating, 1/4" ahead for 5.00 to 6.00 GPH (UL rate P-7) rating.

Once the proper cast air cone has been installed the nozzle can be installed from the air tube end into the Flamelock/nozzle adaptor. Thread the nozzle into the adaptor finger tight then tighten securely with a nozzle wrench. CAUTION: Do not over tighten. At this time position the Flamelock face forward of the cast iron air cone face as shown in figure 00. To position the Flamelock gun assembly forward, loosen the gun assembly 3/8-24 hex lock nut and 5/16" hex slotted slot cover screw. Once in the the required position, retighten the hex lock nut and slot cover screw, move and align arrow decal with slot plate cover for Flamelock gun assembly position reference (see Figure 3, page 6).

To remove a gun assembly once the burner has been installed on the appliance, remove the copper oil line where it attaches with the gun assembly oil line adaptor fitting and remove the 9/16" hex gun assembly locknut. Next, remove the ignition transformer hold down the clip and 5/16-18 hex slotted screw on the top right of the burner and swing open the ignition transformer to the left. Now grasp the rear of the gun assembly where the oil line fitting adaptor exits thru the housing and pull the oil line adaptor to the right out of the housing slot and slot plate cover. Gently lift, do not force, the rear of the gun assembly, rotating the oil line fitting adaptor up at 45 degrees pulling the entire gun assembly out of the housing opening.

Remove and install finger tight in the regular or Flamelock™ nozzle adaptor, then securely tighten nozzle with a nozzle wrench. Check electrodes for proper position (see Figure 1, page 6). Reinstall the Flamelock gun assembly into the burner by repeating the above steps for removal in reverse order. Once reinstalled, securely tighten the 3/8-24 hex gun assembly lock nut and the 7/16" hex oil line flare nut to the oil line fitting adaptor.



## **CAUTION**

CAUTION: Close the ignition transformer and assure there is positive spring contact with the brass buss bars. Take care not to pinch the ignition transformer lead wires between the housing and cover plate. Reinstall the ignition transformer hold down clip and tighten the 5/16-18 hex slotted screw securely.

Care should be taken when closing the transformer not to pinch the lead wires between the housing and cover plate.

# **STARTING PROCEDURE**

## **STARTING BURNER**

Be sure main switch is in "OFF" position, thermostat is substantially above room temperature, the oil tank is filled, all valves are open, and controls set for operation. Adjust air supply on burner by loosening screw on interlocking air bands, and open partially. Open the inspection door and turn on switch. Prime pump according to the pump manufacturer's recommendations and check pressure. If safety lockout occurs, reset after one or two minutes. Do not run fuel unit dry for more than five minutes or damage to the pump may result. When flame is established make a temporary air adjustment for a clean combustion flame, reduce air supply until flame tips appear slightly smoky, then readjust so flame tips are clean looking. Leave inspection door open until chamber is dry. When normal temperature are reached, close inspection door. (See paragraph under "Draft Regulators").

## **FINAL ADJUSTMENTS**

At this point a final adjustment should be made by the use of a COMBUSTION TEST KIT. After operating ten minutes to warm up unit, a smoke tester should be used to take a smoke reading. Smoke test should read no greater than #1 (Shell Bacarach scale), and less than a #1 smoke is desired. At times, a new heating unit requires more time than this to burn clean due to the oil film on the new heater unit surfaces. Recheck draft and take a CO<sub>2</sub> reading over the fire and in the stack. If a large differential between CO<sub>2</sub> readings is noted, air leakage is the most common cause. CO<sub>2</sub> readings must be taken ahead of draft control, if used. The CO<sub>2</sub> measured in the stack should be at least 9% for oil rates 1.00GPH or below, and be at least 10% for oil rates over 1.00GPH. Units should be started and stopped several times to assure good operation. Open inspection door, turn off valve, and check out safety timing of combustion control. Check operation of limit controls and thermostat. Check for oil leaks. NOTE: ALL NEW INSTALLATIONS SHOULD BE REINSPECTED AFTER ONE OR TWO WEEKS OF NORMAL OPERATION.

## **SETTING COMBUSTION EFFICIENCY**

(A) Selecting firing rate desired. (B) Install proper nozzle for appliance (see paragraph under "Nozzle and Air Cone Selection" page 3). (C) For model EHA and EH burners make gun adjustments per firing rate (see Figure 5, page 6). Note: the EHASR guns are permanently set and not adjusted with changing rates (see Figure 6, Page 6). (D) Fire burner, adjust interlocking air bands for yellow tips above combustion chamber. (E) Record CO<sub>2</sub> and smoke. If CO<sub>2</sub> is low, adjust gun setting back 1/32" and repeat CO<sub>2</sub> and smoke test. Continue this adjustment until desired CO<sub>2</sub> and smoke is obtained. Record stack temperature. (F) Check lighting with cold and hot chamber. (G) Lock all adjustment screws.

## **FINAL CHECKS**

Be sure all screws are locked, and the controls on heating unit are adjusted in accordance with the heater and control manufacturer's instruction sheets.

## **MAINTENANCE**

**OILING MOTOR** – Proper lubrication of the motor will prolong its service life. Oil sleeve bearing motors with 6 drops of SAE 20 oil once a year. DO NOT OVER OIL. Ball-bearing motors do not require oiling under normal service conditions. The bearing type is printed on the motor nameplate.

**FILTER** – The oil filter cartridge should be replaced once a year so the fuel oil will not become contaminated and plug up fuel pump and nozzle of oil burner.

**NOZZLE** – The nozzle should be changed at least once a year before the start-up of the heating season. Replace with proper nozzle.

**COMPONENTS** – If for any reason any of the burner parts have to be replaced, always use parts recommended by the manufacturer. Specify part numbers and description when ordering. (IN ALL COMMUNICATIONS STATE BURNER MODEL, SERIAL NUMBERS AND APPLIANCE MANUFACTURERS AND APPLIANCE MODEL DESIGNATION).

**ELECTRODE SETTINGS** – This is very important for reliable ignition of the oil; check these once a year in accordance with the instructions provided in this manual. Replace electrodes if worn excessively or if porcelain insulator is oil soaked or cracked.

**FAN & BLOWER HOUSING** – This must be kept clean, free of dirt and lint; open transformer to check fan blades from above. CAUTION: Be sure the electric power is off on burner when the transformer is opened up for this inspection.



# EFFICIENCY CHART FOR NO. 2 FUEL OIL NET STACK TEMPERATURE (DEGREES F°)



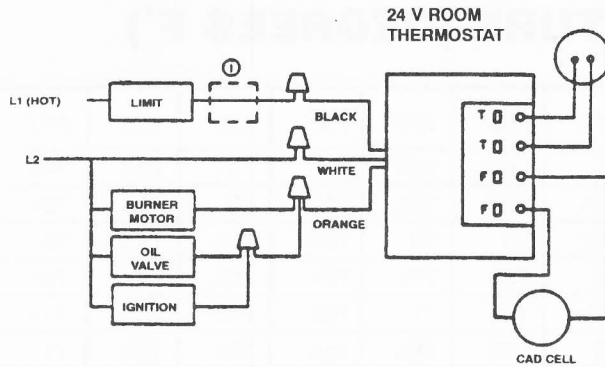
	300°	350°	400°	450°	500°	550°	600°	650°	700°	750°	800°	850°	900°
15	87½	86½	85¼	84¼	83¼	82	81	79¾	78¾	77½	76½	75½	74¼
	87½	86¼	85	84	83	81¾	80¾	79¾	78½	77¼	76	75	73¾
14	87¼	86	84¾	82¾	82¾	81½	80¾	79	78	76¾	75½	74½	73
	87	85¾	84½	83½	82½	81¼	80	78¾	77½	76¼	75¼	74	72¼
13	86¾	85½	84¼	83¼	82	80¾	79½	78¾	77	75¾	74½	73½	71¾
	86½	85¼	84	83¼	81½	80¾	79	77¾	76½	75¼	73¾	72¾	71
12	86¼	85	83¾	82½	81¼	79¾	78½	77¼	75¾	74½	73	71½	70¼
	86	84¾	83½	82	80¾	79¾	78	76½	75¼	73¾	72¼	70¾	69½
11	85¾	84½	83	81½	80¾	78¾	77¼	75¾	74½	73	71½	70	68½
	85½	84	82½	81	79½	78	76½	75	73¾	72	70½	69	67½
10	85	83½	82	80½	78¾	77¼	75¾	74¼	72¾	71	69½	68	66¼
	84½	83	81½	79¾	78	76½	75	73¾	71¾	70	68¾	66¾	65
9	84	82¾	80¾	79	77¼	75¾	74	72¼	70¾	68¾	67	65¼	63½
	83½	81¾	80	78¾	76½	74¾	73	71¼	69½	67½	65½	63¾	62
8	83	81	79¾	77½	75½	73¾	71¾	70	68	66	64	62	60
	82¾	80¾	78½	76½	74½	72½	70½	68½	66½	64¼	62¼	60	58
7	81½	79½	77¾	75¾	73¾	71	69	67	64¾	62½	60¾	57¾	55½
	80¾	78½	76¾	74	71¾	69½	67¾	65	62¾	60¾	57¾	55½	53
6	79¾	77¼	75	72½	70	67¾	65¾	62¾	60¾	57½	55½	52½	50
	78½	76	73½	71	68	65½	63	60¾	57½	54½	51¾	49	46½
5	77¾	74½	71¾	69	65¾	63	60	57	54	51	48	45½	42½
	75½	72½	69	66¼	63	60	56¾	53½	50¾	47	43½	40¾	36¾
4	73¾	69¾	66¾	62¾	59¾	55¾	52	48½	45	41¼	37½	33¾	30

## SUGGESTED COMBUSTION CHAMBER DIMENSIONS CONVERSION OR UPGRADING CHAMBER DIMENSION (IN INCHES)

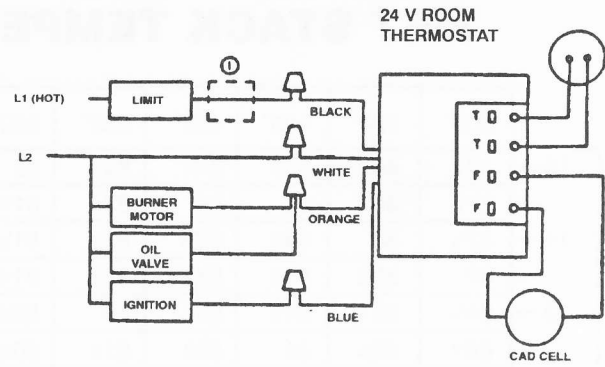
	Firing Rate (GPH)	Square Chamber	Diameter Round Chamber	Rectangular Chamber	Height	Nozzle To Floor
EHA & EHASR Only	0.75	•	10"	8" x 9"	9"	4"
	1.00	•	11"	10" x 10"	10"	4 1/2"
	1.25	•	12"	11" x 11"	11"	5"
	1.35	•	12"	11" x 11"	11"	5"
	1.50	•	13"	11" x 12"	12"	5"
	1.65	•	14"	12" x 13"	13"	5"
	1.75	•	14"	12" x 13"	13"	5"
	2.00	•	15"	13" x 14"	13 1/2"	5 1/2"
	2.50	•	17"	14" x 16"	14"	5 1/2"
EH Only	3.00	15 1/2" x 15 1/2"	17 1/2"	13" x 18 1/2"	14"	7"
	3.50	17 3/4" x 17 3/4"	20"	15" x 21"	15"	7 1/2"
	4.00	19" x 19"	21 1/2"	16" x 22 1/2"	16"	8"
	4.50	20" x 20"	•	17" x 23 1/2"	17"	8 1/2"
	5.00	21 1/4" x 21 1/4"	•	18" x 25"	18"	9"
	6.00	24 1/2" x 24 1/2"	•	21" x 28 1/2"	20"	10"



## INTERMITTENT IGNITION



## INTERRUPTED IGNITION



TO USE WITH LINE VOLTAGE THERMOSTAT JUMPER TERMINALS T T AND ADO THERMOSTAT AS SHOWN AT 1 IN SERIES WITH LIMIT CONTROL.

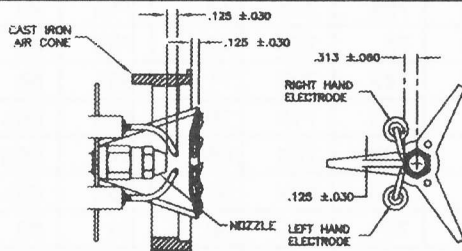
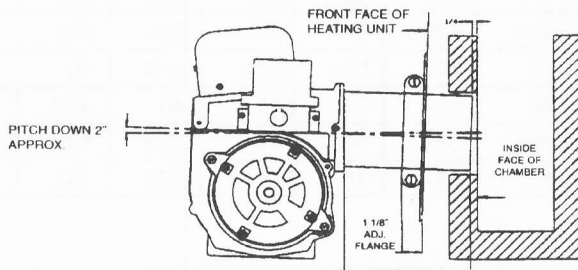


FIGURE 1

### TO DETERMINE THE AIR TUBE LENGTH



The Air Tube Length (Dim. A) is the distance from the front of Air Tube Retainer Flange to the face of Air Cone. Note adjustable flange width.

FIGURE 2

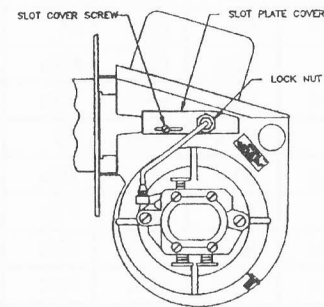


FIGURE 3

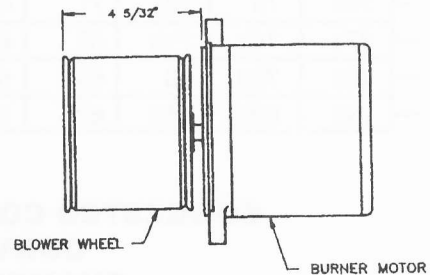


FIGURE 4

### GUN SETTING INSTRUCTIONS

(For EHA and EH Burners only)

Suggested start-up setting: EHA Flamelock™ flush with cast iron cone face. EH Flamelock™ 1/8" ahead of cast iron cone face for 3.00 to 4.50 GPH or 1/4" ahead for 5.00 to 6.00 GPH.

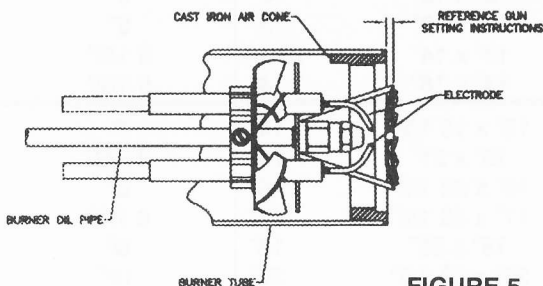


FIGURE 5

### GUN SETTING INSTRUCTIONS

(For EHASR Only)

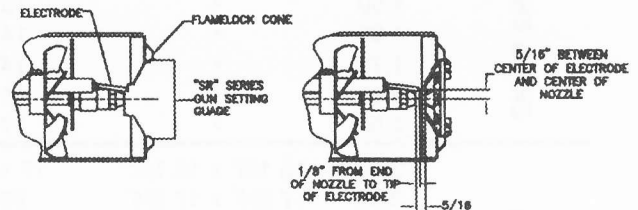
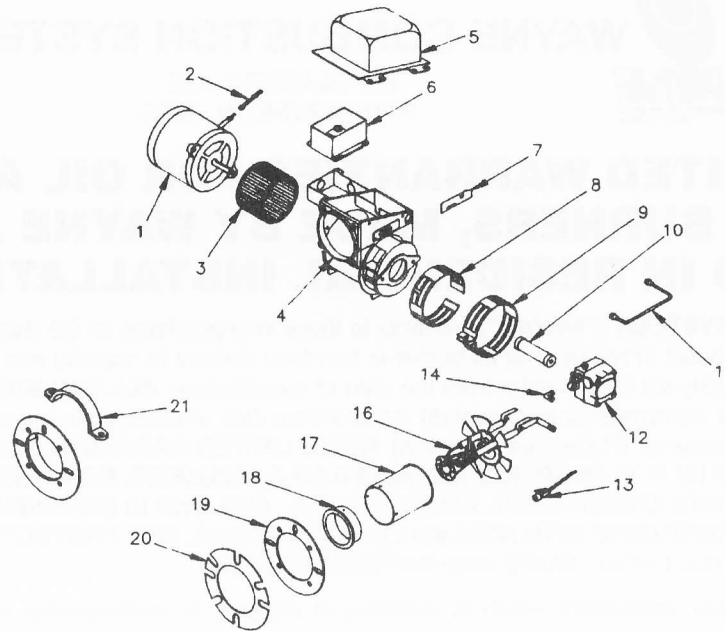


FIGURE 6

# BURNER COMPONENTS - MODELS EHA, EH AND EHASR

(115 Volt 60 Hz Standard - Parts not necessarily as shown)



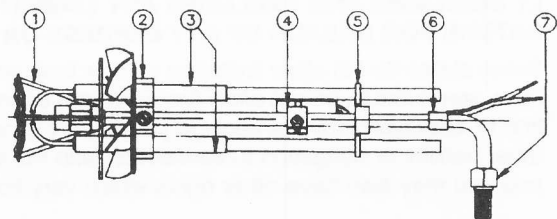
NOTE: STATE SPECIFICATION NUMBER, BURNER MODEL, PART DESCRIPTION AND PART NUMBER WHEN ORDERING PARTS

No.	Description	EHA	EH	EHASR	No.	Description	EHA	EH	EHASR
1	Motor-1/5HP	20554	♦	20554	13	Cad Cell - Up to 12" Tube	14289	14289	14289
	Motor-1/5HP Capstart	21569	♦	21569		Cad Cell - 12" + Tubes	13666	13666	13666
	Motor-1/4HP	20383	20383	20383	14	Brass 90° Elbow	13494	13494	13494
2	Motor Cord Cover	13121	13121	13121	15	N/A	♦	♦	♦
3	Fan - 5 1/4" Dia.	20288	20288	20288	16	Gun Assembly (See NOTE)	♦	♦	♦
	Fan - 6 1/4" Dia.	21854	21854	21854	17	Air Tube (See NOTE)	♦	♦	♦
4	Burner Housing-Painted	31421-001	31421-001	31421-001	18	Air Cones (A)	♦	♦	♦
5	Transformer	23101-E	23101-E	23101-E		Cast Iron - 2 3/4" No Vane	13002	♦	♦
	Ignitor	101051-001	101051-001	101051-001		Cast Iron - 3" No Vane	12989	12989	♦
6	Control - 15 Second	101266-001	101266-001	101266-001		Cast Iron - 3" - 8 Vane	12329	♦	♦
	Control - 30 Second	101266-002	101266-002	101266-002		Cast Iron - 3 1/4" No Vane	12990	12990	♦
	Control - 45 Second	101266-003	101266-003	101266-003		Cast Iron 3 1/4" 8 Vane	♦	13702	♦
7	Slot Cover Plate	13392	13392	13392		Cast Iron 3 9/16" No Vane	♦	13003	♦
8	Air Band - Inner 8 Slot	2669-002	2669-002	2669-002		Stainless - SR #1A	♦	♦	14157
9	Air Band - Outer 8 Slot	2668-002	2668-002	2668-002		Stainless - SR #2A	♦	♦	14158
	Air Band - Outer 5 Slot	20310-002	♦	20310-002		Stainless - SR #3A	♦	♦	14159
10	Coupling - A/B Pump	13279	13279	13279		Stainless - SR #4A	♦	♦	14160
11	Oil Line Assembly	14452	14452	14452	19	Flange	21758-011	21758-011	21758-011
12	Pump - A2VA-7116	13495	♦	13495	20	Gasket	12484	12484	12484
	Pump - A2YA-7916	♦	14375	♦	21	Adjustable Flange	2689-SER	2689-SER	2689-SER
	Pump-B2VA-8216	13634	♦	13634	Not	Pedestal	2794-011	2794-011	2794-011
	Pump - B2YA-8916	♦	13841	♦	Shown				

(A) Cast Iron Air Cones - Measure machined ID and count number of cast vanes (if present). Stainless Steel Air Cones - Number/Letter combination stamped into face of outer ring.

## GUN ASSEMBLY DETAIL (Parts not necessarily as shown)

No.	Description	EHA	EH	EHASR
1	Nozzle Adaptor	12988-002	12988-002	21913-SER
2	Electrode Support Kit	21923-001	21923-001	21923-001
3	Stem/Insulator Kit	13286	13286	13286
4	Cad Cell Mount	13078	13078	13078
5	Buss Bar Support	13276-002	13276-002	13276-002
6	Cad Cell Wire Tie	100850-001	100850-001	100850-001
7	Oil Pipe Fitting	14295	14295	14295





## WAYNE COMBUSTION SYSTEMS

801 GLASGOW AVE.  
FORT WAYNE, IN 48803

### LIMITED WARRANTIES FOR OIL AND GAS BURNERS, MADE BY WAYNE AND USED IN RESIDENTIAL INSTALLATIONS

WAYNE COMBUSTION SYSTEMS ("WAYNE") warrants to those who purchase its **Oil Burner Models** for resale or for incorporation into a product of resale, that its burner is free from defects in material and workmanship under normal use and service for thirty-six (36) months from the date of manufacture. **ALL GAS BURNERS** manufactured by "WAYNE" will be similarly warranted for eighteen(18) months from date of manufacture except where original manufacture offers a greater warranty. (Reference #6 below) THESE LIMITED WARRANTIES DO NOT APPLY UNLESS THE BURNER COVERED BY IT **IS PROPERLY INSTALLED BY A QUALIFIED, COMPETENT TECHNICIAN**, WHO IS LICENSED WHERE STATE AND/OR LOCAL CODES PREVAIL, AND **WHO IS EXPERIENCED IN MAKING SUCH INSTALLATIONS**, IN ACCORDANCE WITH NFPA #31 OF THE NATIONAL FIRE PROTECTION ASSOCIATION AND IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES.

Any **IN-WARRANTY** burner component which is defective in material or workmanship will be either repaired or replaced as follows:

1. Fuel units, motors, transformers, gas valves, and controls should be returned to an authorized service station or distributor of WAYNE for determination of applicability of this LIMITED WARRANTY as to either repair or replacement, where said service station or distributor is reasonably available in the customer's locality. The manufacturers of burner components regularly publish and distribute listings showing the locations of their network of service stations. Where such local service is NOT available for the burner components described above or other burner parts are involved, these items should be returned, freight prepaid, to WAYNE Service Department, 801 Glasgow Ave, Fort Wayne, Indiana 46803.
2. Burners and/or component(s) determined to be covered under this LIMITED WARRANTY by WAYNE shall be repaired or replaced at WAYNE's sole option.
3. WAYNE is not responsible for any labor cost for the removal and replacement of said burner or burner components and equipment associated therewith.
4. A burner so repaired will then carry the LIMITED WARRANTY equal to the unexpired portion of the original burner LIMITED WARRANTY.
5. If inspection by WAYNE does **NOT** disclose any defect covered by this LIMITED WARRANTY, the burner or burner component(s) will be either repaired or replaced at the expense of the customer and WAYNE's regular charges will apply.
6. If the original manufacturer of a burner component offers a warranty greater than either of our LIMITED WARRANTIES described above, then this portion will be added to our LIMITED WARRANTY.

This LIMITED WARRANTY does **NOT** cover products which have been damaged as the result of accident, abuse, misuse, neglect, improper installations, improper maintenance or failure to operate in accordance with WAYNE's written instructions.

These LIMITED WARRANTIES do not extend to anyone except the first purchaser at retail and only when the burner is in the original installation site.

**IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED TO THE DURATION OF THE LIMITED EXPRESS WARRANTIES CONTAINED HEREIN. WAYNE EXPRESSLY DISCLAIMS AND EXCLUDES ANY LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY NATURE FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY.**

Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you. Also, some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. WAYNE neither assumes or authorizes any person to assume for WAYNE any other liability or obligation in connection with the sale of these products. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



**Wayne® Fuel Blend**  
**CAUTION**  
**COMBUSTIBLE LIQUID**  
**Contains Kerosene**



Vapor harmful. May cause respiratory tract irritation, central nervous system depression, skin and eye irritation. Avoid breathing vapor or contact with skin or eyes. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Aspiration hazard if swallowed, can enter lungs and cause damage. Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.

**INHALATION:** If adversely affected by vapors, get to fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Get medical attention.

**SKIN CONTACT:** Wash exposed skin with soap and water. Remove contaminated clothes/shoes and wash before reuse. If persistent irritation occurs, get medical attention.

**EYE CONTACT:** Immediately flush with plenty of water for at least 15 minutes, lifting upper and lower eyelids frequently. If irritation or burning persists, seek medical attention.

**INGESTION:** Do **NOT** induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, empty containers, and unused contents in accordance with state, local, and federal regulations.

See MATERIAL SAFETY DATA SHEET For More Information.

R-65: Harmful: may cause lung damage if swallowed.

S-23: Do not breathe vapor.

S-24: Avoid contact with skin.

S-62: If swallowed, do **NOT** induce vomiting. Seek immediate medical attention.

Wayne Combustion Systems  
801 Glasgow Avenue  
Fort Wayne, Indiana 46803



## Notes

## Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

